DEPARTMENT OF ENVIRONMENTAL CONSERVATION

AIR QUALITY OPERATING PERMIT

Permit No. 416TVP01 Issue Date: August 28, 2001
Application No. 416 Expiration Date: August 27, 2006
Administrative Revision 1: December 6, 2002
Revision 2: Proposed December 23, 2004

The Department of Environmental Conservation, under the authority of AS 46.14 and 18 AAC 50, issues an operating permit to the Permittee, **Icicle Seafoods Corp**, for the operation of the **Northern Victor Seafood Processing Facility**.

This permit satisfies the obligation of the owner and operator to obtain an operating permit as set out in AS 46.14.130(b).

As required by AS 46.14.120(c), the Permittee shall comply with the terms and conditions of this operating permit.

As set out in 18 AAC 50.340(i), after the issue date of this permit, the Permittee is no longer required to comply with the terms and conditions of Air Quality Control Permit to Operate No. 9421-AA007.

Terms and Conditions of Construction Permit No. 416CP01 have been incorporated in this permit.

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John F. Kuterbach, Manager
Air Permits Program

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List of Abbreviations Used in this Permit

AAC .....Alaska Administrative Code
ADEC.....Alaska Department of Environmental Conservation
AS .....Alaska Statutes
ASTM .....American Society for Testing and Materials
C.F.R. .....Code of Federal Regulations
COMS .....Continuous Opacity Monitoring System
dscf.....Dry standard cubic feet
EPA.....US Environmental Protection Agency
gr./dscf .....grain per dry standard cubic feet (1 pound = 7000 grains)
GPH.....gallons per hour
HAPs.....Hazardous Air Pollutants [hazardous air contaminants as defined in AS 46.14.990(14)]
ID .....Source Identification Number
MACT.....Maximum Achievable Control Technology
Mlb.....thousand pounds
NESHAPs .....Federal National Emission Standards for Hazardous Air Pollutants [as defined in 40 C.F.R. 61]
NSPS.....Federal New Source Performance Standards [as defined in 40 C.F.R. 60]
ppm .....Parts per million
PS .....Performance specification
PSD .....Prevention of Significant Deterioration
RM .....Reference Method
SIC.....Standard Industrial Classification
SO_2 .....Sulfur dioxide
tph .....Tons per hour
tpy .....Tons per year
VOC.....volatile organic compound [as defined in 18 AAC 50.990(103)]
wt% .....weight percent

Section 1. Identification

Names and Addresses

Permittee:	**Icicle Seafoods Corp** 4019 21st Ave West Seattle, WA 98199
Facility:	**Northern Victor Seafood Processing Facility**
Location:	Latitude 53˚ 44' North; Longitude 166˚ 18' West
Physical Address:	Udagak Bay Unalaska Island, Alaska
Owner:	Icicle Seafoods Corp 4019 21st Ave West Seattle, WA 98199
Operator:	Same as Owner
Permittee's Responsible Official:	Mike Clutter
Facility Contact:	Robert Parsons, Tim Crozer (907) 581-4240 or (206) 281-5351
Fee Contact:	Mike Clutter (206) 282-0988 mikec@icicleseafoods.com

SIC Codes of the Facility: 2077 - Fish meal & fish oil; 2092 - Fish fillets & frozen shellfish; and 5142 & 5146 - Frozen fish, wholesale

[18 AAC 50.350(b), 1/18/97]

Note: This permit is valid for processing on the motor vessel in any state waters except for the Unalaska and the St. Paul Island special protection areas as identified in 18 AAC 50.025(c)(1 & 2).

Section 2. General Emission Information

Emissions of Regulated Air Contaminants, as provided in Permittee's application:

NO_X, CO, PM-10, VOCs, SO_2

Operating Permit Classifications:

1. 18 AAC 50.325(b)(1) - Emits or has the potential to emit 100 tpy or more of a regulated air contaminant.
2. 18 AAC 50.325(c) - A facility described in 18 AAC 50.300(b) - (e). See below.

Facility Classifications as described under 18 AAC 50.300(b)-(f):

1. 18 AAC 50.300(b)(1)(A) - Contains an industrial process with a throughput greater than 5 tons/hr and requires a control device.

[18 AAC 50.350(b), 1/18/97]

Section 3. Fee Requirements

1. Assessable Emissions. The Permittee shall pay to the Department annual emission fees based on the facility's assessable emissions as determined by the Department under 18 AAC 50.410. The assessable emission fee rate is set out in 18 AAC 50.410. The Department will assess fees per ton of each air contaminant that the facility emits or has the potential to emit in quantities greater than 10 tons per year. The quantity for which fees will be assessed is the lesser of:

1.1 the facility's assessable potential to emit of 374.1 tpy (225 tons of NO_x, 61.9 tons of SO_2, 31.8 tons of PM-10, 40.4 tons of CO and 15 tons of VOC); or

1.2 the facility's projected annual rate of emissions that will occur from July 1 to the following June 30, based upon actual annual emissions emitted during the most recent calendar year or another 12 month period approved in writing by the Department, when demonstrated by:

a. an enforceable test method described in 18 AAC 50.220;

b. material balance calculations;

c. emission factors from EPA's publication AP-42, Vol. I, adopted by reference in 18 AAC 50.035; or

d. other methods and calculations approved by the Department.

[18 AAC 50.400 - 420 & 18 AAC 50.350(c), 1/18/97]

2. Assessable Emissions Estimates. Emission fees will be assessed as follows:

2.1 no later than March 31 of each year, the Permittee may submit an estimate of the facility's assessable emissions to ADEC, Air Permits Program, ATTN: Assessable Emissions Estimate, 410 Willoughby Ave., Juneau, AK 99801-1795; the submittal must include all of the assumptions and calculations used to estimate the assessable emissions in sufficient detail so the Department can verify the estimates; or

2.2 if no estimate is received on or before March 31 of each year, emission fees for the next fiscal year will be based on the potential to emit set out in condition 1.1.

[18 AAC 50.410 & 18 AAC 50.350(c), 1/18/97]

Section 4. Source Inventory and Description

Sources listed below have specific monitoring, record keeping, or reporting conditions in this permit. Source descriptions and ratings are given for identification purposes only.

TABLE 1. Source Inventory

ID	Source Name	Source Description	Rating/size	Install Date
1	Diesel Generator	GM EMD 16-645 EG 1950 HP	1500 kW	1972
2	Diesel Generator	GM EMD 16-645 EG 1950 HP	1500 kW	1972
3	Diesel Generator	GM EMD 16-645 EG 1950 HP	1500 kW	1972
4	Diesel generator	Emergency generator	150 kW	1990
5	Steam boiler	Seattle Boiler 350 BHP	11.7 MMBtu/hr	1993
6	Steam boiler	Johnston Bros. Mod 300 BHP	10 MMBtu/hr	1997
7	Incinerator	Solid Waste	200 lb/hr	2000
8	Fish meal exhaust Filter	JESMA Model DDF 14/2400S Co-Jet	1800 CMH	1989
9	Burn Basket	Burns trash, galley waste and pallets	open burn	

Note: The nameplate dates on Source IDs 5 & 6 are 1965 and 1980, respectively.

Section 5. Source-Specific Requirements

Diesel Fired Internal Combustion Engines

Visible Emissions

3. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source IDs 1 – 8 to reduce visibility through the exhaust effluent by greater than 20% for more than three minutes in any one hour.

Monitor, record and report according to Section 12.

[18 AAC 50.055(a)(1), 1/18/97; 18 AAC 50.350(d), 6/21/98; & 18 AAC 50.350(g) – (i), 1/18/97]

Particulate Matter

4. The Permittee shall not cause or allow particulate matter emitted from Source IDs 1-8 to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

Monitor, record and report according to Section 12.

[18 AAC 50.055(b)(1), 1/18/97; 18 AAC 50.350(d), 6/21/98; & 18 AAC 50.350(g) – (i), 1/18/97]

Sulfur Compound Emissions

5. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from Source IDs 1 - 6 to exceed 500 PPM averaged over three hours.

[18 AAC 50.055(c), 1/18/97; 18 AAC 50.350(d), 6/21/98]

5.1 Compliance with this condition is assured by using a grade of fuel that limits sulfur content to less than 0.5 percent by weight, such as DF-1 or DF-2.

5.2 Obtain a statement or receipt from the fuel supplier certifying the grade of the fuel for each shipment of fuel delivered to the facility. If a certificate is not available from the supplier, analyze a representative sample of the fuel to determine the sulfur content using ASTM method D129-00, D1266-98, D1552-95, D2622-98, D4294-98, D4045-99 or an alternative method approved by the Department.

5.3 Report per condition 38 whenever you receive fuel that does not meet the requirements of condition 5.1. When reporting under this condition, include a material balance calculation of the sulfur compound emissions, in PPM, expected from this fuel, made in accordance with Section 14.

5.4 Include in the facility operating report required by condition 40 a list of the fuel grades received at the facility during the reporting period, and any reports required by condition 5.3.

5.5 Keep records of the sulfur contents of each shipment of fuel, each calculated three-hour SO_2 concentration, and all test results and calculations required under conditions 5.2, 5.3, or 5.4. Report copies of the records with the facility operating report required by condition 40.

5.6 Report per condition 38 if a three-hour exhaust concentration, calculated pursuant to condition 5.3, is greater than 500 PPM.

[18 AAC 50.350(g) - (i), 1/18/97]

Section 6. Facility-Wide Requirements

Fuel Burning Equipment

This section contains the requirements that Permittee has requested to keep the nitrogen oxides (NO_X) emissions below 250 tons per year (tpy), which would cause the facility to be classified as a Prevention of Significant Deterioration Major Facility.

6. Requirements to Avoid Classification as PSD-Major. The Permittee shall emit no more than 225 tons of NO_X per 12-month rolling period.

[Permit No. 9421-AA007, Exhibit B, 10/07/94]

6.1 Burn only diesel fuel in Source IDs 4 through 6, and diesel fuel or diesel/fish oil blends in Source IDs 1 through 3. The Permittee shall use no more than 50 percent fish oil in the diesel/fish oil blend.

6.2 Limit the amount of diesel equivalent fuel burned by Source IDs 1 through 3, as determined in Condition 7.4, to 1,011,981 gallons per 12 month rolling period.

6.3 Limit the diesel fuel burned by Source ID 4 to 500 gallons per 12 month rolling period.

6.4 Limit the diesel fuel burned in Source IDs 5 and 6 to 521,000 gallons per 12 month rolling period.

[Permit No. 416CP01, 12/23/04]

7. Monitoring: The Permittee shall monitor condition 6 as follows:

7.1 Install, maintain and operate in good working order a dedicated fuel meter, accurate to within 2 percent, for each of the following groups: Source IDs 1 through 3, Source ID 4, and Source IDs 5 and 6.

7.2 At the end of each month, monitor and record the volume of diesel fuel consumed during the month by Source IDs 1 through 3, Source ID 4, and Source IDs 5 and 6; and the volume of blended fuel consumed during the month by Source IDs 1 through 3.

7.3 When fish oil is blended, use a metering system to measure volumes, accurate to two percent, and keep the following records:

a. date;

b. volume of fish oil in the blend;

c. volume of diesel fuel in the blend;

d. combined volume of the blend (may be determined by adding b and c), and

e. the percent of fish oil in the resulting blend.

7.4 At the end of each month, calculate and record the equivalent volume of diesel fuel consumed by Source IDs 1 through 3 during the month as:

Diesel Equivalent = Diesel Fuel + (1.123 * Blended Fuel)

where:

Diesel Equivalent = the equivalent gallons of diesel fuel burned during the month as limited by condition 6.2,

Diesel Fuel = the gallons of diesel fuel burned during the month determined by condition 7.2, and

Blended Fuel = the gallons of blended fuel burned during the month calculated by condition 7.3d.

7.5 At the end of each month, calculate and record the total diesel fuel or diesel equivalent (as applicable) burned during the previous 12-months for each of the following groups: Source IDs 1 through 3, Source ID 4, and Source IDs 5 and 6.

[Permit No. 416CP01, 12/23/04]
[18 AAC 50.350(g), 1/18/97]

8. Reporting:

8.1 Report in the Facility Operating Report in accordance with condition 40:

a. the volume of diesel fuel consumed during each month of the reporting period by Source IDs 1 through 3, Source ID 4, and Source IDs 5 and 6 determined by condition 7.2;

b. the volume of blended fuel consumed during each month of the reporting period by Source IDs 1 through 3 as determined in condition 7.2;

c. for each blend within the reporting period, the date, the volume of fish oil, the volume of diesel fuel, the combined volume of the blend, and the percent of fish oil in the blend as determined in condition 7.3;

d. the equivalent volume of diesel fuel consumed by Source IDs 1 through 3 during each month of the reporting period as calculated in condition 7.4; and

e. for each month of the reporting period, the total diesel fuel or total diesel equivalent fuel (as applicable) burned during the previous 12-months for each of the following groups: Source IDs 1 through 3, Source ID 4, and Source IDs 5 and 6 as calculated in condition 7.5.

8.2 Report as an excess emission or permit deviation in accordance with Condition 38 if the total fuel consumption or the ratio of fish oil in the blend exceeds the applicable limits in condition 6, or if the monitoring, recordkeeping, or reporting requirements in conditions 7 and 8 are not met.

[Permit No. 416CP01, 12/23/04]
[18 AAC 50.350(i), 1/18/97]

Incinerator Standards

9. Incinerator Emission Standard: The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from Source ID 7 to reduce visibility through the exhaust effluent by greater than 20% for more than three minutes in any one hour.

[18 AAC 50.050(a)(2), 1/18/97]

9.1 Monitor, record and report according to conditions 50 - 55 in Section 12.

9.2 Report under condition 38 whenever opacity through the exhaust effluent exceeds 20% for more than three minutes in any one hour.

[18 AAC 50.350(g-i), 1/18/97]

10. Incinerator Operations:

10.1 Monitor and record the monthly volume by weight of municipal waste and commercial-industrial waste combusted in Source ID 7.

10.2 Monitor and record the monthly hours of operation for Source ID 7.

10.3 Calculate and record the monthly average throughput of Source ID 7 using data collected in conditions 10.1 and 10.2.

10.4 Report in the Facility Operating Report in accordance with Condition 40, the volume by weight of municipal waste and commercial-industrial waste combusted during the period per condition 10.1, and the monthly average throughput per condition 10.3.

[Permit No. 416CP01, 12/23/04]
[18 AAC 50.350(g-i), 1/18/97]

Section 7. Insignificant Sources

This section contains the requirements that the Permittee identified under 18 AAC 50.335(q)(2) as applicable to insignificant sources at the facility. This section also specifies the testing, monitoring, reporting, and recordkeeping for insignificant sources that the Department finds necessary to ensure compliance with the applicable requirements. Insignificant sources are not exempted from any air quality control requirement or federally enforceable requirement, except that the requirements of conditions 38 and 40 do not apply to this section.

As set out in 18 AAC 50.350(m), the shield of AS 46.14.290 does not apply to insignificant sources.

11. The Permittee shall not cause or allow visible emissions, excluding condensed water vapor, emitted from an industrial process, fuel-burning equipment, or an incinerator to reduce visibility through the exhaust effluent by greater than 20% for more than three minutes in any one hour.

[18 AAC 50.050(a)(2) & 18 AAC 50.055(a)(1), 1/18/97]

12. The Permittee shall not cause or allow particulate matter emitted from an industrial process or fuel-burning equipment to exceed 0.05 grains per cubic foot of exhaust gas corrected to standard conditions and averaged over three hours.

[18 AAC 50.055(b)(1), 1/18/97]

13. The Permittee shall not cause or allow sulfur compound emissions, expressed as SO_2, from an industrial process or fuel-burning equipment, to exceed 500 ppm averaged over three hours.

[18 AAC 50.055(c), 1/18/97]

14. Based on reasonable inquiry, the Permittee shall certify compliance with the requirements specified in conditions 11, 12, and 13 as set out in condition 41.

[18 AAC 50.350(m)(3), 9/4/98]

Section 8. Generally Applicable Requirements

15. Asbestos NESHAP. The Permittee shall comply with the requirements set forth in 40 C.F.R. 61.145, 61.150, and 61.152, and the applicable sections set forth in 40 C.F.R. 61, Subpart A and Appendix A.

[18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]
[40 C.F.R. 61, Subpart M, 12/19/96]

16. Refrigerant Recycling and Disposal. The Permittee shall comply with the standards for recycling and emission reduction of refrigerants set forth in 40 C.F.R. 82, Subpart F.

[18 AAC 50.040(d) & 18 AAC 50.350(d)(1), 1/18/97]
[40 C.F.R. 82, Subpart F, 7/1/97]

17. Facilities Containing NSPS Sources. The Permittee shall comply with the requirements of 40 C.F.R. 60, New Source Performance Standards (NSPS), 40 C.F.R. 61 National Emission Standards for Hazardous Air Pollutants (NESHAPS), 40 C.F.R. 63, National Emission Standards for Hazardous Air Pollutants (NESHAPS) for Source Categories as they apply to the facility.

[18 AAC 50.040(a) & (c), 7/2/00; 18 AAC 50.040(b), 1/18/97]

18. Good Air Pollution Control Practice.

18.1 At all times, including periods of startup, shutdown, and malfunction, the Permittee shall, to the extent practicable, maintain and operate Source IDs 1 - 9, including affected air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Department which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.

18.2 The Permittee shall maintain and operate air pollution control equipment according to the manufacturer's recommendations. If the manufacturer's recommendations are not available the Permittee shall operate the equipment according to an operation and maintenance plan. The Permittee shall revise the plan if requested by the Department.

18.3 The Permittee shall keep records of maintenance performed and a copy of any manufacturer's procedures and operation and maintenance plans for the sources listed in condition 18.1.

[18 AAC 50.030, 1/1/00 & 18 AAC 50.350(f)(2)-(3), 1/18/97]

19. Dilution. The Permittee shall not dilute emissions with air to comply with this permit.

[18 AAC 50.045(a), 1/18/97]
[18 AAC 50.350(i) & 18 AAC 50.350(f)(3), 1/18/97]

20. Reasonable Precautions to Prevent Fugitive Dust. A person who causes or permits bulk materials to be handled, transported or stored, or who engages in industrial activity or construction project shall take reasonable precautions to prevent particulate matter from being emitted into the ambient air.

20.1 The Permittee shall keep records of

a. complaints received by the Permittee and complaints received by the Department and conveyed to the Permittee; and

b. any additional precautions that are taken

(i) to address complaints described in condition 20.1a or to address the results of Department inspections that found potential problems; and

(ii) to prevent future dust problems.

20.2 The Permittee shall report according to condition 23.

[18 AAC 50.346 (c), 5/30/02; 18 AAC 50.040(e), 8/15/02; 18 AAC 50.045(d) & 18 AAC 50.350(g)(1), 1/18/97]

21. Stack Injection. The Permittee shall not release materials other than process emissions, products of combustion, or materials introduced to control pollutant emissions from a stack at a source constructed or modified after November 1, 1982, unless approved in writing by the Department.

[18 AAC 50.055(g) & 18 AAC 50.310(m), 1/18/97]

22. Open Burning. The Permittee shall comply with the following requirements when conducting open burning at the facility.

22.1 Open burning of asphalt, rubber products, plastics, tars, oils, oily wastes, contaminated oil cleanup materials, or other materials in a way that gives off black smoke is prohibited without written approval of the Department in accordance with the procedures set forth in 18 AAC 50.065.

[18 AAC 50.040(e), 7/2/00; 18 AAC 50.065(b) & 18 AAC 50.350(d)(1), 1/18/97]

22.2 Open burning or incineration of pesticides, halogenated organic compounds, cyanic compounds, or polyurethane products in a way that gives off toxic or acidic gases or particulate matter is prohibited.

[18 AAC 50.040(e), 7/2/00; 18 AAC 50.065(c) & 18 AAC 50.350(d)(1), 1/18/97]

22.3 Open burning of putrescible garbage, animal carcasses, or petroleum-based materials, including materials contaminated with petroleum or petroleum derivatives, is prohibited if it causes odor or black smoke that has an adverse effect on nearby persons or property.

[18 AAC 50.040(e), 7/2/00; 18 AAC 50.065(d) & 18 AAC 50.350(d)(1), 1/18/97]

22.4 Open burning is prohibited in an area if the Department declares an air quality advisory under 18 AAC 50.245, stating that open burning is not permitted in that area for the day.

[18 AAC 50.040(e), 7/2/00; 18 AAC 50.065(e) & 18 AAC 50.350(d)(1), 1/18/97]

22.5 When conducting open burning, the Permittee shall ensure that

a. the material is kept as dry as possible through the use of cover or dry storage;

b. before igniting the burn, noncombustibles are separated to the greatest extent practicable;

c. natural or artificially induced draft is present;

d. to the greatest extent practicable, combustibles are separated from grass or peat layer;

e. combustibles are not allowed to smolder; and

f. sufficient written records are kept to demonstrate that the Permittee complies with the limitations in this condition. Upon request of the Department, submit copies of the records.

[18 AAC 50.040(e), 7/2/00; 18 AAC 50.065(a), 18 AAC 50.350(d)(1) & 18 AAC 50.335(g) – (h), 1/18/97]

23. Air Pollution Prohibited. No person may permit any emission which is injurious to human health and welfare, animal, or plant life, or property, or which would unreasonably interfere with the enjoyment of life or property.

[18 AAC 50.040(e), 8/15/02; 18 AAC 50.110, 5/26/72; & 18 AAC 50.346(a), 10/1/04]

23.1 If emissions present a potential threat to human health and safety, the Permittee shall report any such emissions according to condition 38.

23.2 As soon as practicable after becoming aware of the compliant that is attributable to emission from the facility, the Permittee shall investigate the complaint to identify emissions that the Permittee believes have caused or are causing a violation of condition 23.

23.3 The Permittee shall initiate and complete corrective action necessary to eliminate any violation identified by a complaint or investigation as soon as practicable if

a. after an investigation because of a complaint or other reason, the Permittee believes that the emissions from the facility have caused or are causing a violation of condition 23; or

b. the Department notifies the Permittee that it has found a violation of condition 23.

23.4 The Permittee shall keep records of:

a. the date, time, and nature of all complaints received;

b. the name of the person or persons that complained, if known;

c. a summary of the investigation, including reasons the Permittee does or does not believe the emission have caused a violation of condition 23; and

d. any corrective actions taken or planned for complaints attributable to emissions from the facility.

23.5 With each facility operating report under condition 40, the Permittee shall include a brief summary report which must include:

a. the number of complaints received;

b. the number of times the Permittee or the Department found corrective action necessary;

c. the number of times action was taken on complaint within 24 hours; and

d. the status of corrective actions the Permittee or Department found necessary that were not taken within 24 hours.

23.6 The Permittee shall notify the Department of a compliant that is attributable to emissions from the facility within 24 hours after receiving the complaint, unless the Permittee has initiated corrective action within 24 hours of receiving the complaint.

[18 AAC 50.346(a), 10/1/04 & 50.350 (g)-(i), 1/18/97]

24. Technology-Based Emission Standard. If an unavoidable emergency, malfunction, or non-routine repair, as defined in 18 AAC 50.235, causes emissions in excess of a technology-based emission standard listed in condition 16 and Section 6, the Permittee shall take all reasonable steps to minimize levels of emissions that exceed the standard.

[18 AAC 50.235(a) & 18 AAC 50.350(f), 1/18/97]

25. Permit Renewal. To renew this permit, the Permittee shall submit a complete application under 18 AAC 50.335 no sooner than **February 27, 2005** and no later than **February 27, 2006** to renew this permit**.**

[18 AAC 50.335(a), 1/18/97]

Section 9. General Source Testing and Monitoring Requirements

26. Requested Source Tests. In addition to any source testing explicitly required by this permit, the Permittee shall conduct source testing as requested by the Department to determine compliance with applicable permit requirements.

[18 AAC 50.220(a), 18 AAC 50.345(a)(10), 1/18/97]

27. Operating Conditions. Unless otherwise specified by an applicable requirement or test method, the Permittee shall conduct source testing

27.1 At a point or points that characterize the actual discharge into the ambient air; and

27.2 At the maximum rated burning or operating capacity of the source or another rate determined by the Department to characterize the actual discharge into the ambient air.

[18 AAC 50.220(b) & 18 AAC 50.350(g), 1/18/97]

28. Reference Test Methods. The Permittee shall use the following as reference test methods when conducting source testing for compliance with this permit:

28.1 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(a) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 60.

[18 AAC 50.040(a), 7/2/00, 18 AAC 50.220(c)(1)(A) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 60, 7/1/99]

28.2 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(b) must be conducted in accordance with the methods and procedures specified in 40 C.F.R. 61.

[18 AAC 50.040(b), 18 AAC 50.220(c)(1)(B) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 61, 7/1/97]

28.3 Source testing for compliance with requirements adopted by reference in 18 AAC 50.040(c) must be conducted in accordance with the source test methods and procedures specified in 40 C.F.R. 63.

[18 AAC 50.040(c), 18 AAC 50.220(c)(1)(C) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 63, 7/1/97]

28.4 Source testing for the reduction in visibility through the exhaust effluent must be conducted in accordance with the procedures set out in Section 13.

[18 AAC 50.030, 18 AAC 50.220(c)(1)(D) & 18 AAC 50.350(g), 1/18/97]

28.5 Source testing for emissions of particulate matter, sulfur compounds, nitrogen compounds, carbon monoxide, lead, volatile organic compounds, fluorides, sulfuric acid mist, municipal waste combustor organics, metals, and acid gases must be conducted in accordance with the methods and procedures specified 40 C.F.R. 60, Appendix A.

[18 AAC 50.040(a)(4), 7/2/00 18 AAC 50.220(c)(1)(E) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 60, Appendix A, 7/1/99]

28.6 Source testing for emissions of PM-10 must be conducted in accordance with the procedures specified in 40 C.F.R. 51, Appendix M.

[18 AAC 50.035, 18 AAC 50.220(c)(1)(F) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 51, Appendix M, 7/1/97]

28.7 Source testing for emissions of any contaminant may be determined using an alternative method approved by the Department in accordance with Method 301 in Appendix A to 40 C.F.R. 63.

[18 AAC 50.040(c), 7/2/00; 18 AAC 50.220(c)(2) & 18 AAC 50.350(g), 1/18/97]
[40 C.F.R. 63, Appendix A, Method 301, 7/1/99]

29. Excess Air Requirements. To determine compliance with this permit, standard exhaust gas volumes must only include the volume of gases formed from the theoretical combustion of fuel, plus the excess air volume normal for the specific source type, corrected to standard conditions (dry gas at 70° F and an absolute pressure of 760 millimeters of mercury).

[18 AAC 50.220(c)(3), 18 AAC 50.350(g) & 18 AAC 50.990(88), 1/18/97]

30. Test Plans. Before conducting any source tests, the Permittee shall submit a plan to the Department. The plan must include the methods and procedures to be used for sampling, testing, and quality assurance, and must specify how the source will operate during the test and how the Permittee will document this operation. A complete plan must be submitted within 60 days of receiving a request under condition 26 and at least 30 days before the scheduled date of any tests.

[18 AAC 50.345(a)(10), 18 AAC 50.350(b)(3) & 18 AAC 50.350(g), 1/18/97]

31. Test Notification. At least 10 days before conducting a source test, the Permittee shall give the Department written notice of the date and time the source test will begin.

[18 AAC 50.345(a)(10) & 18 AAC 50.350(b)(3), 1/18/97]

32. Test Reports. Within 45 days after completing a source test, the Permittee shall submit two copies of the results, to the extent practical, in the format set out in the *Source Test Report Outline* of Volume III, Section IV.3 of the State Air Quality Control Plan, adopted by reference in 18 AAC 50.030(8). The Permittee shall certify the results as set out in condition 34.

[18 AAC 50.345(a)(10), 18 AAC 50.350(b)(3) & 18 AAC 50.350(h) – (i), 1/18/97]

33. Particulate Matter Calculations. In source testing for compliance with the particulate matter standards in conditions 4 and 12 the three-hour average is determined using the average of three one-hour test runs. The source testing must account for those emissions caused by soot blowing, grate cleaning, or other routine maintenance activities by ensuring that at least one test run includes the emissions causes by the routine maintenance activity and is conducted under conditions that lead to representative emissions from that activity. The emissions must be quantified using the following equation:

$$E = E_M \left[(A + B) \times \frac{S}{R \times A} \right] + E_{NM} \left[\frac{(R - S)}{R} - \frac{B \times S}{R \times A} \right]$$

Where:

E= the total particulate matter emissions of the source in grains per dry standard cubic foot (gr./dscf)

E_M= the particulate matter emissions in gr./dscf measured during the test that included the routine maintenance activity.

E_{NM}= the arithmetic average of particulate emissions in gr./dscf measured during by the test runs that did not include the maintenance activity.

A= the period of routine maintenance activity occurring during the test run that included routine maintenance activity, expressed to the nearest hundredth of an hour.

B= the total period of the test run, less A.

R= the maximum period of source operation per 24 hours, expressed to the nearest hundredth of an hour.

S= the maximum period of routine maintenance activity per 24 hours, expressed to the nearest hundredth of an hour.

[18 AAC 50.220(f) & 18 AAC 50.350(g), 1/18/97]

Section 10. General Recordkeeping, Reporting, and Compliance Certification Requirements

34. Certification. The Permittee shall certify all reports, compliance certifications, or other documents submitted to the Department under this permit by including the signature of a responsible official for the permitted facility following the statement: "Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete." For the same six-month reporting period, the excess emission and permit deviation reports submitted under condition 38 may be certified with the facility operating report required by condition 40. All other reports must be certified upon submittal.

[18 AAC 50.205, 18 AAC 50.345(a)(9), 18 AAC 50.350(b)(3) & 18 AAC 50.350(i) 1/18/97]

35. Submittals. Unless otherwise directed by the Department or this permit, the Permittee shall send reports, compliance certifications, and other documents required by this permit to ADEC, Air Permits Program, 610 University Ave., Fairbanks, AK 99709-3643, ATTN: Compliance Technician.

[18 AAC 50.350(i), 1/18/97]

36. Information Requests. The Permittee shall furnish to the Department, within a reasonable time, any information the Department requests in writing to determine whether cause exists to modify, revoke and reissue, or terminate the permit or to determine compliance with the permit. Upon request, the Permittee shall furnish to the Department copies of records required to be kept by this permit. The Department, in its discretion, will require the Permittee to furnish copies of those records directly to the federal administrator.

[18 AAC 50.200, 18 AAC 50.345(a)(8), 18 AAC 50.350(b)(3) & 18 AAC 50.350(g) – (i), 1/18/97]

37. Recordkeeping Requirements. The Permittee shall keep all records required by this permit for at least five years after the date of collection, including

37.1 Copies of all reports and certifications submitted pursuant to this section of the permit.

37.2 Records of all monitoring required by this permit, and information about the monitoring including

a. calibration and maintenance records, original strip chart or computer-based recordings for continuous monitoring instrumentation;

b. sampling dates and times of sampling or measurements;

c. the operating conditions that existed at the time of sampling or measurement;

d. the date analyses were performed;

e. the location where samples were taken;

f. the company or entity that performed the sampling and analyses;

g. the analytical techniques or methods used in the analyses; and

h. the results of the analyses.

[18 AAC 50.350(h), 1/18/97]

38. Excess Emission and Permit Deviation Reports. The Permittee shall report all emissions or operations that exceed or deviate from the requirements of this permit or that present a potential threat to human health or safety as soon as possible, but no later than 48 hours, after the event commences. The report must include the information listed on the form contained in Section 15. The Permittee may use this form to report emissions under this condition.

[18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97]

39. NSPS and NESHAP Reports. The Permittee shall submit to the Department copies of reports as they apply to the facility as follows:

39.1 Attach a copy of any NSPS and NESHAPs reports submitted to the U.S. Environmental Protection Agency (EPA) Region 10 to the facility operating report required by condition 40.

39.2 The Permittee shall notify the Department and provide a written copy of any U.S. EPA granted waiver of the federal emission standards, record keeping, monitoring, performance testing, or reporting requirements, or approved custom monitoring schedules within 30 days after receipt of a waiver or schedule. Keep a copy of each U.S. EPA issued monitoring waiver or custom monitoring schedule with the permit at the facility.

[18 AAC 50.040, 7/2/00 & 18 AAC 350(i)(2), 1/18/97]
[40 C.F.R. 60 & 40 C.F.R. 61, 7/1/99]

40. Facility Operating Reports. During the life of this permit, the Permittee shall submit an original and two copies of an operating report by August 1 for the period January 1 to June 30 and by February 1 for the period July 1 to December 31. Facility operating reports must include copies of the records required to be reported by the conditions of this permit. In addition, facility operating reports must include a listing of all excess emissions and permit deviations that occurred during the reporting period and must identify

40.1 the date of the deviation;

40.2 the equipment involved;

40.3 the permit condition;

40.4 a description of the deviation; and

40.5 any corrective action or preventive measures taken and the date of such actions.

[18 AAC 50.350(d)(4), 18 AAC 50.350(f)(3) & 18 AAC 50.350(i), 1/18/97]

41. Annual Compliance Certification. Each year by February 1, the Permittee shall compile and submit to the Department an original and two copies of an annual compliance certification report as follows:

41.1 For each permit term and condition set forth in Section 3 through Section 10, including terms and conditions for monitoring, reporting, and recordkeeping:

a. certify the compliance status over the preceding calendar year consistent with the monitoring required by this permit;

b. state whether compliance is intermittent or continuous; and

c. briefly describe each method used to determine the compliance status.

41.2 Submit a copy of the report directly to the U.S. EPA-Region 10, Office of Air Quality, M/S OAQ-107, 1200 Sixth Avenue, Seattle, WA 98101.

[18 AAC 50.350(j), 1/18/97]

Section 11. Standard Conditions Not Otherwise Included in the Permit

42. Consistent with Alaska law, for purpose of submitting compliance certifications or establishing whether or not the Permittee has violated or is in violation of any standard in this permit, nothing in this permit precludes the use of any credible evidence or information relevant to whether the facility would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed.

[18 AAC 50.350(f)(3), 1/18/97]
[40 C.F.R. 52.12(c), 7/1/99]

43. The Permittee must comply with each permit term and condition. Noncompliance constitutes a violation of AS 46.14, 18 AAC 50, and the Clean Air Act, except for those requirements designated as not federally-enforceable, and is grounds for:

43.1 an enforcement action,

43.2 permit termination, revocation and reissuance, or modification in accordance with AS 46.14.280, or

43.3 denial of an operating-permit renewal application.

[18 AAC 50.345(a)(1) & 18 AAC 50.350(b)(3), 1/18/97]

44. It is not a defense in an enforcement action to claim that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with a permit term or condition.

[18 AAC 50.345(a)(2) & 18 AAC 50.350(b)(3), 1/18/97]

45. Each permit term and condition is independent of the permit as a whole and remains valid regardless of a challenge to any other part of this permit.

[18 AAC 50.345(a)(3) & 18 AAC 50.350(b)(3), 1/18/97]

46. Compliance with permit terms and conditions is considered to be compliance with those requirements that are:

46.1 included and specifically identified in the permit, or

46.2 determined in writing in the permit to be inapplicable.

[18 AAC 50.345(a)(4) & 18 AAC 50.350(b)(3), 1/18/97]

47. The permit may be modified, reopened, revoked and reissued, or terminated for cause. A request by the Permittee for modification, revocation and reissuance, or termination or a notification of planned changes or anticipated noncompliance does not stay any operating permit condition.

[18 AAC 50.345(a)(5) & 18 AAC 50.350(b)(3), 1/18/97]

48. The permit does not convey any property rights of any sort, nor any exclusive privilege.

[18 AAC 50.345(a)(6) & 18 AAC 50.350(b)(3), 1/18/97]

49. The Permittee shall allow an officer or employee of the Department or an inspector authorized by the Department, upon presentation of credentials and at reasonable times with the consent of the owner or operator, to:

49.1 enter upon the premises where a source subject to the operating permit is located or where records required by the permit are kept,

49.2 have access to and copy any records required by the permit,

49.3 inspect any facilities, equipment, practices, or operations regulated by or referenced in the permit, and

49.4 sample or monitor substances or parameters to assure compliance with the permit or other applicable requirements.

[18 AAC 50.345(a)(7) & 18 AAC 50.350(b)(3), 1/18/97]

Section 12. Visible Emissions and Particulate Matter Monitoring Plan

Visible Emissions Observations for Liquid Fuel and Natural Gas Fired Sources

50. As provided in Table 1, the Permittee shall observe the exhaust of Source IDs 1 -8 for visible emissions using **either** the Method-9 Plan **or** the Smoke/No-Smoke Plan. The Permittee may change visible-emission plans for a source at any time. Upon permit issuance start visible emissions monitoring with the **Initial Monitoring Frequency**.

[18 AAC 50.350(g)-(i), 1/18/97]

Table 1 Visual Observation Methods

	Method-9 Plan	**Smoke/No Smoke Plan**
Initial Monitoring Frequency	Within six months after the issue date of this permit or within seven calendar days after changing from the Smoke/No-Smoke Plan), whichever is later, and at least monthly (semiannually for pipeline quality natural gas fired sources) that a source operates thereafter, observe its exhaust for six minutes to obtain 24 individual 15-second opacity readings in accordance with Section 13. • **If** two or more individual 15-second readings during the six-minute observation period are greater than 20% opacity, **then** continue the Method-9 observations for an additional 12 minutes for a total of 18 minutes. • **If** four or more individual 15-second readings during the 18-minute observation period are greater than 20% opacity, **then** continue the Method-9 observations for an additional 42 minutes for a total of 60 minutes.	During each calendar day (quarterly for pipeline quality natural gas fired sources) that a source operates, observe the exhaust for the presence or absence of visible emissions, excluding condensed water vapor. Record the following information in a written log for each observation and submit copies of the records upon request of the Department: • the date and time of the observation; • from Section 4 TABLE 1 of this permit, the ID of the source observed; • whether visible emissions are present or absent in the exhaust; • if the source starts operation on the day of the observation, the startup time of the source; and • name and title of the person making the observation.

	Method-9 Plan	Smoke/No Smoke Plan
Reduced Monitoring Frequency	**If** 60 minutes of observations were not necessary under the initial monitoring frequency, or the source was observed for 60 minutes and no more than eight individual 15-second readings are greater than 20% opacity during the most recent observation, **then** reduce the number of six-minute observations to one observation for every quarter (no reduction for pipeline quality natural gas fired sources) that a source operates.	**If** the source operated without visible smoke in the exhaust during the most recent month, **then** reduce the number of Smoke/No-Smoke observations to one observation for every month (no reduction for pipeline quality natural gas fired sources) that a source operates.
Increased Monitoring Frequency	**If** a source is observed for 60 minutes and more than eight, but fewer than thirteen individual 15-second readings are greater than 20% opacity during the most recent observation, **then** increase the observation frequency to or maintain at monthly intervals, until the criterion for reduced monitoring frequency specified above is met.	No increased monitoring frequency. Go to condition 52 **or** to the initial monitoring frequency of the Method-9 Plan.

51. The Permittee is not required to comply with conditions 30, 31 and 32 (Test Plans, Test Notifications and Test Reports) when the exhaust is observed for visible emissions under condition 50.

[18 AAC 50.350(g)-(i), 1/18/97]

Corrective Actions Based on Smoke/No Smoke Observations

52. If under the Smoke/No Smoke Plan visible emissions are present in the exhaust during an observation performed under condition 50, then the Permittee shall:

52.1 Initiate actions to eliminate smoke from the source within 24 hours of the observation;

52.2 Keep a written record of the starting date, the completion date, and a description of the actions taken to reduce smoke;

52.3 After completing the actions, then take smoke/no-smoke readings in accordance with condition 50 at a frequency of at least once per day for the next 30 calendar days (for both liquid and gas fired sources) that the source operates, and continue according to the optional schedule set out in condition 50; and

52.4 If the actions taken under condition 52.1 do not eliminate the smoke, or if subsequent smoke is observed under the schedule set out in condition 52.3, then observe the exhaust in accordance with the Method-9 Plan until written approval has been received from the Department to resume observations under the Smoke/No Smoke Plan.

[18 AAC 50.350(g)-(i), 1/18/97]

Particulate Matter Testing for Source IDs 1 – 6 and 9

The Permittee shall conduct source tests on Source IDs 1 – 6 and 9 to determine the concentration of particulate matter (PM) in the exhaust of a source as follows:

52.5 Conduct a particulate matter source test according to the requirements set out in Section 9 no later than 90 calendar days after any time either of the following occurs (unless a follow-up Method-9 test during the 90 days shows that the following no longer occurs):

a. A 60-minute Method-9 reading results in 13 or more 15-second readings with an opacity greater than 20%; or

b. A 60-minute Method-9 reading results in an average opacity that is greater than 12% for a source with an exhaust stack diameter that is less than 21 inches.

52.6 During each PM source test, observe the exhaust for 60 minutes in accordance with Section 13 *and* submit a summary of these observations with the source test report.

[18 AAC 50.350(g)-(i), 1/18/97]

Reporting Requirements

53. The Permittee shall, within 180 calendar days after the effective date of this permit, record and report the exhaust stack diameter of each Source IDs 1 – 7 and 9, and report this information to the Department with the first or second facility operating report required by condition 40.

[18 AAC 50.350(g)-(i), 1/18/97]

54. The Permittee shall notify the Department in each facility operating report required by condition 40, which visible-emission plan in condition 50 was used for each source. The Permittee shall also submit with the facility operating report copies of the observation results (i.e. opacity readings) for each source that used the Method-9 Plan. The Permittee shall also indicate in the facility operating report the number of calendar days that smoke was observed for each source that used the Smoke/No-Smoke Plan.

[18 AAC 50.350(g)-(i), 1/18/97]

55. Report under condition 38 if:

55.1 a 60-minute opacity observation results in

a. 13 or more 15-seconds readings with an opacity greater than 20%;

b. a 60-minute average opacity that is greater than 12% for a source with an exhaust stack diameter that is less than 21 inches; or

55.2 the results of a source test for particulate matter exceeds the particulate matter emission limit.

[18 AAC 50.350(g)-(i), 1/18/97]

Section 13. Visible Emission Evaluation Procedures

An observer qualified according to 40 C.F.R. 60, RM 9 shall use the following procedures to determine the reduction of visibility through the exhaust effluent.

Position. The qualified observer shall stand at a distance sufficient to provide a clear view of the emissions with the sun oriented in the 140° sector to his back. Consistent with maintaining the above requirement, the observer shall, as much as possible, make his observations from a position such that his line of vision is approximately perpendicular to the plume direction and, when observing opacity of emissions from rectangular outlets (e.g., roof monitors, open baghouses, noncircular stacks), approximately perpendicular to the longer axis of the outlet. The observer's line of sight should not include more than one plume at a time when multiple stacks are involved, and in any case the observer should make his observations with his line of sight perpendicular to the longer axis of such a set of multiple stacks (e.g., stub stacks on baghouses).

Field Records. The observer shall record the name of the plant, emission location, facility type, observer's name and affiliation, and the date on the Visible Emissions Field Data Sheet . The time, estimated distance to the emission location, approximate wind direction, estimated wind speed, description of the sky condition (presence and color of clouds), and plume background are recorded on the sheet at the time opacity readings are initiated and completed.

Observations. Opacity observations shall be made at the point of greatest opacity in that portion of the plume where condensed water vapor is not present. The observer shall not look continuously at the plume but instead shall observe the plume momentarily at 15-second intervals. Unless directed to do otherwise in this permit, observe emissions for 60 consecutive minutes to obtain a minimum of 240 observations.

Attached Steam Plumes. When condensed water vapor is present within the plume as it emerges from the emission outlet, opacity observations shall be made beyond the point in the plume at which condensed water vapor is no longer visible. The observer shall record the approximate distance from the emission outlet to the point in the plume at which the observations are made.

Detached Steam Plume. When water vapor in the plume condenses and becomes visible at a distinct distance from the emission outlet, the opacity of emissions should be evaluated at the emission outlet prior to the condensation of water vapor and the formation of the steam plume.

Recording Observations. Opacity observations shall be recorded to the nearest 5 percent at 15-second intervals on the Visible Emissions Observation Record contained in this section. Record the minimum number of observations required by the permit. Each momentary observation recorded shall be deemed to represent the average opacity of emissions for a 15-second period.

Data Reduction. To determine compliance with a standard set out in conditions 3 and 9, count the number of observations that exceed 20 percent opacity and record this number on the sheet.

Visible Emissions Field Data Sheet

Certified Observer: _____

Company: _____

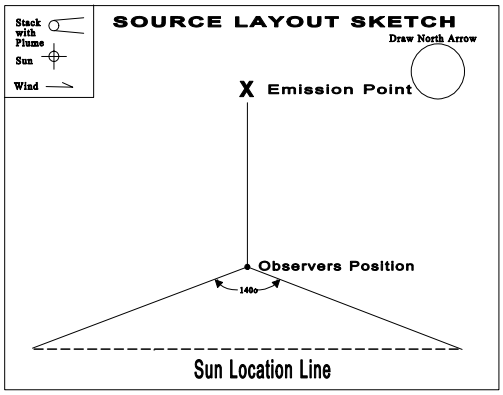
Location: _____

Test No.: _____ Date: _____

Source: _____

Production Rate, Operating Rate & Unit Operating Hours: _____

Hrs. of observation: _____



Clock Time	Initial				Final
Observer location Distance to discharge					
Direction from discharge					
Height of observer point					
Background description					
Weather conditions Wind Direction					
Wind speed					
Ambient Temperature					
Relative humidity					
Sky conditions: (clear, overcast, % clouds, etc.)					
Plume description: Color					
Distance visible					
Water droplet plume? (Attached or detached?)					
Other information					

Visible Emissions Observation Record

Page ___ of ___

Company _____ Certified Observer_____

Test Number _____ Clock time_____

Date:		Visibility reduction every 15 Seconds (Opacity)				Steam Plume (check if applicable)		Comments
Hr	Min	0	15	30	45	Attached	Detached	

Additional information:

_____
Observer Signature

Data Reduction:
Duration of Observation Period (minutes) _____
Number of Observations _____
Number of Observations exceeding 20% _____

Average Opacity Summary

Set Number	Time Start—End	Opacity	
		Sum	Average

Section 14. Material Balance Calculation

If the sulfur content of a fuel shipment is greater than 0.5% by weight, calculate the three-hour exhaust concentration of SO_2 using the following equations:

A = 31,200 X [**wt%S_{fuel}**] = 31,200 X _____ = _____

B = 0.148 X [**wt%S_{fuel}**] = 0.148 X _____ = _____

C = 0.396 X [**wt%C_{fuel}**] = 0.396 X _____ = _____

D = 0.933 X [**wt%H_{fuel}**] = 0.933 X _____ = _____

E = B + C + D = _____ + _____ + _____ = _____

F = 21 – [**vol%$_{dry}O_{2,\ exhaust}$**] = 21 - _____ = _____

G = [**vol%$_{dry}O_{2,\ exhaust}$**] ÷ F = _____ ÷ _____ = _____

H = 1 + G = 1 + _____ = _____

I = E x H = _____ x _____ = _____

SO_2 concentration = A ÷ I = _____ ÷ _____ = _____ PPM

The **wt%S_{fuel}**, **wt%C_{fuel}**, and **wt%H_{fuel}** are equal to the weight percents of sulfur, carbon, and hydrogen in the fuel. These percentages should total 100%.

The fuel weight percent (wt%) of sulfur is obtained pursuant to condition 5.2. The fuel weight percents of carbon and hydrogen are obtained from the fuel refiner.

The volume percent of oxygen in the exhaust (**vol%$_{dry}O_{2,\ exhaust}$**) is obtained from oxygen meters, manufacturer's data, or from the most recent ORSAT analysis at the same engine load used in the calculation.

Enter all of the data in percentages without dividing the percentages by 100. For example, if **wt%S_{fuel}** = 1.0%, then enter 1.0 into the equations not 0.01 and if **vol%$_{dry}O_{2,\ exhaust}$** = 3.00%, then enter 3.00, not 0.03.

[18 AAC 50.350(g), 1/18/97]

Section 15. ADEC Notification Form

Fax this form to: (907) 269-7508 Telephone: (907) 269-8888

Icicle Seafoods Corp
Company Name

Northern Victor Seafood Processing Facility
Facility Name

1. Reason for notification:

❑ **Excess Emission** ❑ **Permit Condition Exceedence**

2. Event Information (Use 24-hour clock)**:**

	START Time**:** (hr:min):	**END** Time:	**Duration**
Date: _____	_____:_____	_____:_____	_____:_____
Date: _____	_____:_____	_____:_____	_____:_____
		Total:	_____:_____

3. Cause of Event (Check all that apply)**:**

❑ START UP ❑ UPSET CONDITION ❑ CONTROL EQUIPMENT
❑ SHUT DOWN ❑ SCHEDULED MAINTENANCE ❑ OTHER _____

Attach a detailed description of what happened, including the parameters or operating conditions exceeded.

4. Sources Involved:

Identify each Emission Source involved in the event, using the same identification number and name as in the Permit. List any Control Device or Monitoring System affected by the event. Attach additional sheets as necessary.

Source ID No.	Source Name	Description	Control Device

5. Emission Limit and/or Permit Condition Exceeded:

Identify each Emission Standard and Permit Condition exceeded during the event. Attach a list of ALL known or suspected injuries or health impacts. Attach additional sheets as necessary.

Permit Condition	Limit	Exceedence

6. Emission Reduction:

Attach a detailed description of ALL of the measures taken to minimize and/or control emissions during the event.

7. Corrective Actions:

Attach a detailed description of ALL corrective actions taken to restore the system to normal operation.

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are true, accurate, and complete.

Printed Name:

Signature: Date

Alaska Department of Environmental Conservation

Air Permits Program

August 28, 2001

Icicle Seafoods Corp

M/V Northern Victor

LEGAL AND FACTUAL BASIS

of the terms and conditions for

Permit No. 416TVP01

Prepared by H.J. Coutts

Administrative Revision 1 - December 6, 2002

Revision 2 – Proposed 12/23/04

INTRODUCTION

This document sets forth the legal and factual basis for the terms and conditions of Operating Permit No. 416TVP01

The Northern Victor is a facility, motor vessel that processes raw fish into finished seafood products. The facility is owned and operated by Icicle Seafood, which is the Permittee for the facility's operating permit.

PROCESS DESCRIPTION

As provided in the application, the facility contains 4 diesel electric generators, 2 oil fired boilers, one incinerator, and one fishmeal dryer.

The sources at the facility regulated in the Operating Permit are identified in TABLE 1 in Section 4 of the permit

SOURCE INVENTORY AND DESCRIPTION

Section 4 of Operating Permit No. 416TPV01 contains TABLE 1 describing the sources regulated by the permit. The table is provided for information and identification purposes only. Specifically, the source rating/size provided in the table is not intended to create an enforceable limit.

BASIS FOR REQUIRING AN OPERATING PERMIT

Northern Victor requires an operating permit because it has the potential to emit 100 tons per year (TPY) or more of a regulated air contaminant. Northern Victor meets the definition of operating permit facility in the state regulations at Section 2. The facility is not a Prevention of Significant Deterioration (PSD) Major Facility as defined in 18 AAC 50.300(c)(1) because it does not have the potential to emit more than 250 TPY of a regulated air contaminant in an area classified as attainment or unclassifiable.

Alaska regulations require operating permit applications to include identification of "regulated sources." As applied to Northern Victor, the state regulations require a description of:

Each incinerator, including a demonstration showing each requirement in 18 AAC 50.050, Incinerator Emissions Standards, that applies [18 AAC 50.335(e)(4)(A)];

Each source regulated by a standard in 18 AAC 50.055, Industrial Processes and Fuel Burning Equipment [18 AAC 50.335(e)(4)(C)];

Each source subject to a standard adopted by reference in 18 AAC 50.040 [18 AAC 50.335(e)(2)]; and

Sources subject to requirements in an existing DEC permit [18 AAC 50.335(e)(5)].

The emission sources at Northern Victor classified as "regulated sources" according to the above DEC regulations are listed in TABLE 1 of Permit No. 416TVP01. The facility has allowable emissions of 225 TPY of NOx, 40.4 TPY of CO, 61.9 TPY of SO_2, 31.8 TPY of PM-10, and 15 TPY of VOC. Any planned emissions above those allowable levels will trigger the need for a construction permit review per 18 AAC 50.300(h)(2).

The motor vessel is permitted to process seafood outside the SO_2 special protection areas around the Unalaska area and the St. Paul Island area as quantified in 18 AAC 50.025(c)(1 & 2). If the motor vessel intends to process seafood inside the SO_2 special protection areas, it will need a construction permit.

CURRENT AIR QUALITY PERMITS

Previous Air Quality Permit to Operate

The most recent permit issued for this facility is permit-to-operate number 9421-AA007. This permit-to-operate include all construction authorizations issued through November 9, 1994, and was issued before January 18, 1997. All facility-specific requirements established in this previous permit are included in the new operating permit as described below.

Title-V Operating Permit Application History

The owner or operator submitted an application on July 9, 1998. Since the application was delinquent the Northern Victor operated without an application shield.

The application was never determined to be complete.

Construction Permits

The only construction permit issued after January 18, 1997 (the effective date of the new divided operating and construction-permitting program) is Preliminary Construction Permit No. 416CP01 that went to public notice on 12/23/04 as is incorporated into Operating Permit 416TVP01 Revision 2.

Title-V Operating Permit Revision

The facility submitted a construction permit application for the Northern Victor Facility dated December 1, 2003 (Permit No. 416CP01), and requested that the revisions be incorporated into this operating permit (Permit No. 416TVP01 Revision 2). In addition, the facility requested hygiene to the operating permit. In total, the Department made to following changes in Operating Permit No. 416TVP01 Revision 2.

1. The CET fuel limit is revised from 1,122,000 gallons to 1,011,980 gallons for Units 1-3 to remain under the current 219.6 tons per year (tpy) of nitrogen oxides (NOx) cap for these units after results of voluntary source testing.

2. The facility has authorization to burn a diesel oil/fish oil blend in Units 1-3 of no more than 50% fish oil. To account for the increased NOx emissions from fish oil, 1 gallon of fish oil/diesel blend will count as 1.123 gallons of diesel equivalent.

3. Based on the Department's March 5, 2003 Compliance Evaluation, the facility's source inventory is updated and corrected.

4. The incinerator (Unit 7) is rated at less than 200 pounds per hour. Therefore, as set out by 18 AAC 50.050, there is no particulate matter limit. Condition 56 of Operating Permit No. 416TVP01 Revision 1 is revised to remove Source ID 7 from the requirement for particular matter testing.

5. Condition 13 of Operating Permit No. 416TVP01 Revision 1 is removed as the facility opts to use Condition 14.

6. Conditions 6 through 11 of Operating Permit No. 416TVP01 Revision 1 are removed as the boiler Units 5 and 6 are not subject to 40 C.F.R. 60 Subpart Dc due to the date of construction.

7. Conditions 20 and 23 are updated to standard operating permit conditions.

COMPLIANCE HISTORY

The facility, a motor vessel, has operated anchored at its current location since 1998. Initial review of the permit files for this facility, which indicated a facility generally operating in compliance with its 1994 operating permit. However, since it was operating without an application shield its authority to operate was under Compliance Order by Consent No. 98-016-50 until issuance of Permit No. 416TVP01.

FACILITY-SPECIFIC REQUIREMENTS CARRIED FORWARD

18 AAC 50.350(d)(1)(D) requires that this permit include each facility specific requirement established in prior permit 9421-AA007. Table 1 below lists the old requirement (condition) and the new condition that carries over the old requirement into the new permit.

Table 1. A comparison of pre-January 18, 1997, Permit No. 9421-AA007 facility-specific conditions to Permit No. 416TVP01 conditions. This table does not include standard and general conditions.

Permit No. 9421-AA007 condition	Description of Requirement	Permit No. 416TVP01 condition	How condition was revised
2	limits in Exhibit B of permit	Section 6	not revised
7	fuel limits as CET, cumulative equivalent total	Section 6	CET was converted to actual gallons
29	show compliance with 18 AAC 50.020	none	dispersion modeling is now required only for construction permits

LEGAL AND FACTUAL BASIS FOR THE PERMIT CONDITIONS

Conditions 1 - 2

Legal Basis: [18 AAC 50.350(c) & 18 AAC 50.400 – 420, 1/18/97]

The regulations require all permits to include due dates for the payment of fees and any method the Permittee may use to re-compute assessable emissions.

Factual Basis: These conditions require the Permittee to pay fees in accordance with the Department's billing regulations. The Department's billing regulations set the due dates for payment of fees based on the billing date.

The conditions also set forth how the Permittee may recompute assessable emissions. If the Permittee does not choose to annually calculate assessable emissions, emissions fees may be paid based on "potential to emit."

The potential to emit for sulfur dioxide is based upon a 0.5% fuel sulfur limit as allowed in the permit.

Table 2. Emissions Summary

Pollutant	NO_x	CO	PM	SO_2	VOC
Potential Emissions (TPY) per AS 46.14.990(21)	225	40.4	31.8	61.9	~15
Assessable Potential to Emit (TPY) per condition 1.1.	225	40.4	31.8	61.9	~15

Actual emission estimates (TPY) 1999	181	40	13	24	~5

The potential emissions for the facility were determined from EPA's AP-42 emission factors. The emission factors were provided in the application.

The assessable potential to emit is simply those regulated air contaminants for which the facility has the potential to emit quantities greater than 10 tons per year.

The actual emissions were for 1999 and were taken from the permit application.

Condition 3

Legal Basis: [18 AAC 50.055(a)(1), 1/18/97]

[18 AAC 50.350(d), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

Diesel engines are fuel-burning equipment. This regulation applies to operation of all fuel-burning equipment in Alaska.

Factual Basis: The condition cites the state visible emission standard applicable to fuel-burning equipment. The Permittee shall not cause or allow the diesel engines to violate this standard.

The monitoring, recordkeeping, and reporting requirements are listed in Section 12 of the permit. The requirements for the visible emission and particulate matter standards are combined in this section.

There are two options for monitoring visible emissions. One option requires the Permittee to observe visible emissions in accordance with the state reference test method. The other option requires the Permittee to momentarily observe the exhaust for presence or absence of visible emissions. This latter option takes into account the difficulty and expense of getting certified readers to remote locations in Alaska.

Under the latter option, all sources are initially observed for the presence or absence of visible emissions in the exhaust for 30 operating days. Visible emissions are presumed to be absent if the exhaust exhibits less than 5 percent opacity. The Department believes the initial thirty days is sufficient to capture all operating modes and to assure the monitoring determines if the engine complies with the visible emission standard. If visible emissions are absent during the 30 operating days, the monitoring frequency is relaxed to one observation for every 30 days of source operation. The Department believes monthly checks are sufficient to monitor for the presence of increased visible emissions that may result from degradation of an engine.

If the Permittee observes smoke in the exhaust during the initial 30 operating days or during a monthly check, the Permittee must take action to reduce visible emissions from the source within 24 hours of the observation. After completing the action, the Permittee continues to

observe the exhaust for the presence or absence of visible emissions for another 30 operating days. If smoke is observed during this 30-day period, the Permittee must observe visible emissions using the state reference test method within 14 days after the visible emissions are observed.

The recordkeeping requirements consist of keeping records of the results of all visible emission observations and records of any actions taken to reduce visible emissions. The Permittee must report copies of the results of all observations done using the state reference test method with operating reports. The Permittee must report emissions in excess of the state visible emission standard.

Condition 4

Legal Basis: [18 AAC 50.055(b)(1), 1/18/97]

[18 AAC 50.350(d), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

Diesel engines are fuel-burning equipment. This regulation applies to operation of all fuel-burning equipment in the State of Alaska.

Factual Basis: The condition cites the state particulate-matter emission standard applicable to fuel-burning equipment. The Permittee shall not cause or allow diesel engines to violate this standard.

The monitoring, recordkeeping, and reporting requirements are listed in Section 12 of the permit. The requirements for the visible emission and particulate matter standards are combined in this section.

The requirement to test for particulate matter to determine compliance with the standard is triggered by the results of observations conducted in accordance with the state reference test method. The Permittee is required to conduct tests if the results of an observation show noncompliance with visible emission standard or the average opacity indicates noncompliance with the particulate matter standard.

The Department is not requiring initial tests to show compliance with the particulate matter standards. Based on manufacturers' data, the Department believes that most new diesel engines comply with the particulate matter standard[1]. Also, there are opacity-particulate correlations[2] that show emissions from diesel engines commonly used in Alaska will meet the state standard of 0.05grains per dry standard cubic foot if the average opacity in the exhaust is less than 20 percent. The Department believes this is sufficient justification to not require initial compliance testing since the Permittee certified compliance with the visible emission standard in the application. However, the Department is requiring testing if the Permittee observes visible emissions greater than the state standard.

In a general operating permit for diesel engines, the Department required source tests for particulate matter when the average opacity of a visible emission observation exceeded

[1] See attached data
[2] See attached graph

twelve percent. Since that time, the Department has uncovered additional test data and literature that supports a statement that diesel engines will meet the 0.05 grain loading standard when the average opacity is less than twelve percent, provided that the exhaust outlet diameter (path length for opacity observations) exceeds 21 inches. Testing conducted at both an Alaskan power plant and an Hawaiian utility confirm that compliance with the 20 percent opacity standard will insure compliance with the 0.05 gr./dscf particulate standard, provided that the exhaust outlet is 21 inches or larger. This test data closely agrees with values obtained using the smoke density calculator at http://www.dieselnet.com/calculator/index.html. The calculator is based on the report, *Particulate Matter Measurements*, DieselNet Technology Guide, Revision 1997.12. Based on this new information, the Department is requiring testing if the Permittee observes visible emissions greater than 12%, expressed as a six-minute average and the stack diameter if the source is less than 21 inches. The Department is also requiring the Permittee to measure visible emissions during a source test and to calculate the average opacity during the test.

The Permittee must report copies of all source test reports and emissions in excess of the particulate matter standard.

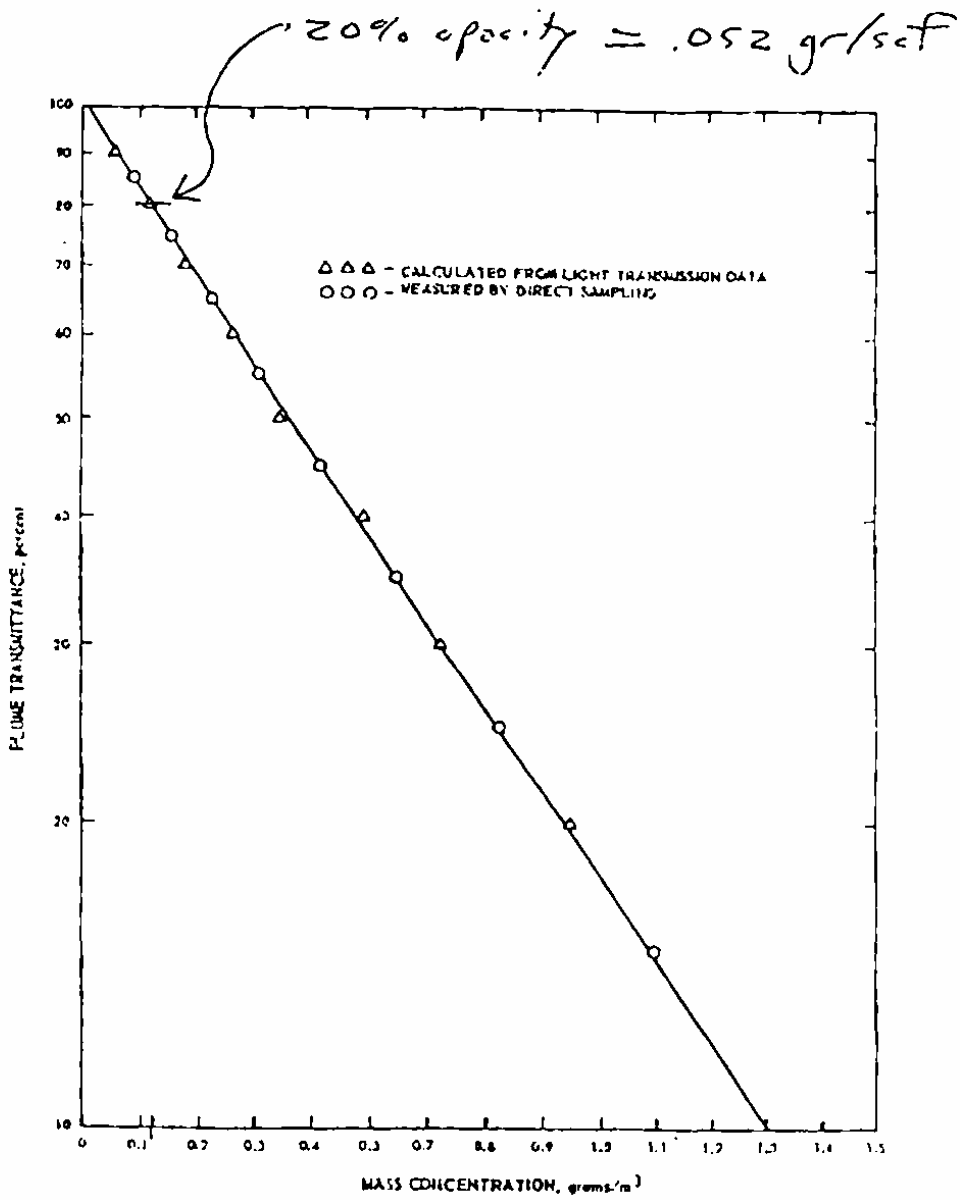


Figure 32. Mass concentration of black plume as calculated from transmittance and measured by direct sampling.

OPTICAL PROPERTIES AND VISUAL EFFECTS

			rpm	Capacity kW	Test Capacity kW	bhp	dscf	astm	% moisture	Fahrenheit Gas temp.	%O2	gm/Kw-hr	gm/scm	g/dscf	
FO2 0.2% S	CAT	D398 JWAC		not avail.	not avail.	939	1969	5229 not avail.	not avail.	890		0.09 n/a		0.008	From vendor
FO2 0.2% S	CAT	3412 DITA		360	350	483	930	2161 not avail.	not avail.	1203 n/a		0.08 n/a		0.008	From vendor
FO2 0.2% S	CAT	3516		1135	1135	1586	3261	9189		817 n/a		0.24 n/a		0.021	From vendor
FO2 0.2% S	CAT	3512		855	855	1205.7	2114	6003 not avail.		822 n/a		0.165 n/a		0.017	From vendor
FO2 0.2% S	CAT	3516		1450	1200	n/a	3941.3	11228.4	6.82	874.6	10.5	n/a n/a		0.031	METHOD 5
FO 1&2	CAT	3516		1450	1200	n/a	3927.5	11170.1	6.69	875.5	10.5	n/a n/a		0.028	METHOD 5
FO 1&2	CAT	3516		1450	1200	n/a	3869.8	10983.3	6.54	877.7	10.3	n/a n/a		0.030	METHOD 5
FO 1&2	CAT	3518		1450	1200	n/a	4644	13002 not avail.		817	15	0.15 n/a		0.012	From vendor
FO2 0.2% S	CAT	3606	900	1730	1730	2320	3084	5980	16744 not avail.		811	15	0.29 n/a		0.023	From vendor
FO2 0.2% S	CAT	3608	900	2300	2300	3299	6886	19282 not avail.		795	15	0.24 n/a		0.018	From vendor
FO2 0.2% S	CAT	3608	1000	2460	2460	4540	9288	25005 not avail.		817	15	0.15 n/a		0.012	From vendor
FO2 0.2% S	CAT	3612	900	3460	3460	4962	10143	28399 not avail.		838	15	0.28 n/a		0.021	From vendor
FO2 0.2% S	CAT	3612	1000	3700	3700	6159	11960	33489 not avail.		811	15	0.39 n/a		0.029	From vendor
FO2 0.2% S	CAT	3616	900	4600	4600	6598	13774	38566 not avail.		795	15	0.24 n/a		0.01862	From vendor
FO2 0.2% S	CAT	3616	1000	4920	4920	6598	1548	3232	7.7	548	13.2 n/a	n/a		0.00662	METHOD 5
FO 2	Alias Copc 12 cylinder		?	-600	-600	800	1522	3156	7.1	547	13.1 n/a	n/a		0.00615	METHOD 5
FO 2	Alias Copc 12 cylinder		?	-600	-600	800	1534	3205	7.1	555	13.1 n/a	n/a		0.013	METHOD 5
FO 2	Alias Copc 12 cylinder		?	-600	-600	800	1522	3205	7.1	555	13.1 n/a	n/a		0.013	METHOD 5
FO 2	Alias Copc 8 cylinder		?	-375	-375	500	1022	2025	7.6	497	13.2 n/a	n/a		0.019	METHOD 5
FO 2	Alias Copc 8 cylinder		?	-375	-375	500	1062	2084	6.9	495	13.2 n/a	n/a		0.020	METHOD 5
FO 2	Alias Copc 8 cylinder		?	-375	-375	500	1110	2159	6.9	488	13.5 n/a	n/a		0.018	METHOD 5
FO 2	Alias Copc 8 cylinder		?	-375	-375	500	6497.5	18512.0	6.43	760.4	11.0 n/a	n/a		0.025	METHOD 5
FO 1&2	Ruston	12RKC		2200	1850	2500	8482.8	16363.6	8.35	744.4	11.1 n/a	n/a		0.022	METHOD 5
FO 1&2	Ruston	12RKC		2200	1850	2500	6588.7	16572.5	6.31	747.0	11.0 n/a	n/a		0.021	METHOD 5
			RPM									g/hp-hr			
FO2 0.2% S	CAT	3116DITA A		2400	281.15 not avail.		150 not avail.	not avail.	not avail.	not avail.	5	0.22	50	0.022	From vendor
FO2 0.2% S	CAT	3116DITA A		2400	254.79 not avail.		190 not avail.	not avail.	not avail.	not avail.	5	0.23	72	0.038	From vendor
FO2 0.2% S	CAT	3116DITA B		2400	268.2 not avail.		200 not avail.	not avail.	not avail.	not avail.	5	0.23	85	0.037	From vendor
FO2 0.2% S	CAT	3116DITA B		2400	221.265 not avail.		165 not avail.	not avail.	not avail.	not avail.	5	0.22	63	0.028	From vendor
FO2 0.2% S	CAT	3116DITA C		2300	268.2 not avail.		200 not avail.	not avail.	not avail.	not avail.	5	0.23	87	0.030	From vendor
FO2 0.2% S	CAT	3116DITA C		2200	261.495 not avail.		195 not avail.	not avail.	not avail.	not avail.	5	0.16	67	0.026	From vendor
FO2 0.2% S	CAT	3116DITA C		2100	248.085 not avail.		185 not avail.	not avail.	not avail.	not avail.	5	0.15	59	0.026	From vendor
FO2 0.2% S	CAT	3116DITA C		2000	241.38 not avail.		180 not avail.	not avail.	not avail.	not avail.	5	0.15	59	0.026	From vendor
FO2 0.2% S	CAT	3116DITA C		2500	241.38 not avail.		180 not avail.	not avail.	not avail.	not avail.	5	0.32	129	0.057	From vendor
FO2 0.2% S	CAT	3116DITA C		2400	234.675 not avail.		175 not avail.	not avail.	not avail.	not avail.	5	0.23	75	0.033	From vendor
FO2 0.2% S	CAT	3116DITA C		2200	214.56 not avail.		160 not avail.	not avail.	not avail.	not avail.	5	0.26	86	0.038	From vendor
FO2 0.2% S	CAT	3116DITA C		2100	201.15 not avail.		150 not avail.	not avail.	not avail.	not avail.	5	0.27	101	0.044	From vendor
FO2 0.2% S	CAT	3116DITA C		2000	194.445 not avail.		145 not avail.	not avail.	not avail.	not avail.	5	0.29	119	0.052	From vendor
FO2 0.2% S	CAT	3116DITA C		1950	201.15 not avail.		150 not avail.	not avail.	not avail.	not avail.	5	0.30	129	0.057	From vendor
FO2 0.2% S	CAT	3116DITA C		1800	241.38 not avail.		180 not avail.	not avail.	not avail.	not avail.	5	0.23	32	0.014	From vendor
FO2 0.2% S	CAT	3116DIT A		2400	187.74 not avail.		140 not avail.	not avail.	not avail.	not avail.	5	0.23	57	0.025	From vendor
FO2 0.2% S	CAT	3116DIT B		2400	201.15 not avail.		150 not avail.	not avail.	not avail.	not avail.	5	0.22	70	0.031	From vendor
FO2 0.2% S	CAT	3116DIT C		2400	207.855 not avail.		155 not avail.	not avail.	not avail.	not avail.	5	0.23	77	0.034	From vendor
FO2 0.2% S	CAT	3116DIT C		2300	201.15 not avail.		150 not avail.	not avail.	not avail.	not avail.	5	0.24	68	0.030	From vendor
FO2 0.2% S	CAT	3116DIT C		2200	194.445 not avail.		145 not avail.	not avail.	not avail.	not avail.	5	0.25	85	0.037	From vendor
FO2 0.2% S	CAT	3116DIT C		2100	181.035 not avail.		135 not avail.	not avail.	not avail.	not avail.	5	0.22	75	0.033	From vendor
FO2 0.2% S	CAT	3116DIT C		2000	174.33 not avail.		130 not avail.	not avail.	not avail.	not avail.	5	0.22	68	0.030	From vendor

A&B Continuous
C Intermittent

Condition 5.

Legal Basis: [18 AAC 50.055(c), 1/18/97]

[18 AAC 50.350(d), 6/21/98]

[18 AAC 50.350(g) – (i), 1/18/97]

The condition applies to diesel engines because engines are fuel-burning equipment.

Factual Basis: The condition reiterates a sulfur emission standard applicable to fuel-burning equipment. The Permittee may not cause or allow their equipment to violate this standard.

Sulfur dioxide comes from the sulfur in the liquid, hydrocarbon fuel (e.g. diesel or No. 2 fuel oil). Attachment 1 of this document provides the proof of the stoichiometric, mass-balance equations to calculate sulfur-dioxide concentration of the exhaust gas from the combustion of fuel with ambient air. According to these equations, fuel containing no more than 0.5% sulfur by weight will always comply with the emission standard. For fuels with a sulfur content higher than 0.5%, the condition requires the Permittee to use Section 14 to calculate the sulfur-dioxide concentration using the equations to show that the standard is not exceeded.

Either fuel sulfur testing or verification of ASTM fuel grade will verify compliance.

Condition 6

Legal Basis: [18 AAC 50.350(e)(3), 6/21/98]

[Condition 2 of permit 9421-AA007, 10/7/94]

Factual Basis: The fuel consumption limits of Condition 6.1 are designed to keep the NO_X emissions below 250 TPY to avoid the requirement for a PSD permit review. The limit is applicable to all the diesel engines and to boilers. The Permittee may not cause or allow their equipment to violate this limit.

If the facility were permitted to emit 250 or more TPY of NOx, it would be subject to a PSD permit review which would entail the imposition of best available control technology for the new diesel engines. The limit of 225 TPY NOx was requested by Permittee. The fuel consumption limit limits the NOx emission to is less than 90% of the 250 TPY PSD trigger limit, so source testing is not required.

In order to comply with the owner requested limits in the previous permit and in the application Permittee shall emit no more than 225 tons per year of nitrogen oxides at the facility as calculated as set out by the condition.

Condition 9

Legal Basis: [18 AAC 50.050 (a)(2), 1/18/97]

[18 AAC 50.350(d)], 6/21/98]

These conditions apply to the incinerator.

Factual Basis: Condition 9 cites the state visible emission standard applicable to incinerators. The Permittee shall not cause or allow the incinerator to violate this standard.

The monitoring, recordkeeping, and reporting requirements are listed in 9.1 and 9.2 of the permit.

There are two options for monitoring visible emissions. One option requires the Permittee to observe visible emissions in accordance with the state reference test method. The other option requires the Permittee to momentarily observe the exhaust for presence or absence of visible emissions. This latter option takes into account the difficulty and expense of getting certified readers to remote locations in Alaska.

Under the latter option, all sources are initially observed for the presence or absence of visible emissions in the exhaust for 30 operating days. Visible emissions are presumed to be absent if the exhaust exhibits less than 5 percent opacity. The Department believes the initial thirty days is sufficient to capture all operating modes and to assure the monitoring determines if the incinerator complies with the visible emission standard. If visible emissions are absent during the 30 operating days, the monitoring frequency is relaxed to one observation for every 30 days of source operation. The Department believes monthly checks are sufficient to monitor for the presence of increased visible emissions that may result from degradation or mal-operation of the incinerator.

If the Permittee observes smoke in the exhaust during the initial 30 operating days or during a monthly check, the Permittee must take action to reduce visible emissions from the source within 72 hours of the observation. After completing the action, the Permittee continues to observe the exhaust for the presence or absence of visible emissions for another 30 operating days. If smoke is observed during this 30-day period, the Permittee must observe visible emissions using the state reference test method within 14 days after the visible emissions are observed.

The recordkeeping requirements consist of keeping records of the results all visible emission observations and records of any actions taken to reduce visible emissions. The Permittee must report copies of the results of all observations done using the state reference test method with operating reports. The Permittee must report emissions in excess of the state visible emission standard.

Conditions 11 - 13

Legal Basis: [18 AAC 50.050(a)(2), 1/18/97]

[18 AAC 50.055(a)(1). 1/18/97]

[18 AAC 50.055(b)(1), 1/18/97]

[18 AAC 50.055(c), 1/18/97]

Factual Basis: These are general emission standards which apply to all industrial processes fuel-burning equipment, and incinerators regardless of size. The conditions re-iterate the general standards and require compliance for insignificant sources. The Permittee may not cause or allow their equipment to violate these standards. Insignificant sources are not listed

in the permit unless specific monitoring, recordkeeping and reporting are necessary to ensure compliance.

The Department finds that the insignificant sources at this facility do not need specific monitoring, recordkeeping and reporting to ensure compliance.

Condition 14

Legal Basis: [18 AAC 50.350(m)(3), 9/4/98]

Factual Basis: The regulations require the Permittee to certify that their insignificant sources comply with applicable requirements. The condition restates the regulatory requirement.

Condition 15

Legal Basis: [18 AAC 50.040(b)(3) & 18 AAC 50.350(d)(1), 1/18/97]

[Federal Citation: 40 C.F.R. 61, Subpart M, 12/19/96]

If the Permittee engages in asbestos demolition and renovation, then these requirements may apply.

Factual Basis: The condition cites and requires compliance with the regulations that will apply if the Permittee engages in asbestos demolition or renovation. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient.

Condition 16

Legal Basis: [18 AAC 50.040(d) & 18 AAC 50.350(d)(1), 1/18/97]

[Federal Citation: 40 C.F.R. 82, Subpart F, 7/1/97]

Factual Basis: The condition cites and requires compliance with the regulations that will apply if the Permittee uses certain refrigerants. Because these regulations include adequate monitoring and reporting requirements and because the Permittee is not currently engaged in such activity, simply citing the regulatory requirements is sufficient.

Condition 17

Legal Basis [18 AAC 50. 040(a) & (c), 7/2/00]

[18 AAC 50.040(b), 1/18/97]

[40 C.F.R. 60, 7/1/99]

[40 C.F.R. 61, 12/19/96]

[40 C.F.R. 63, 7/1/99]

Factual Basis: This condition cites and requires compliance with the regulations that will apply if the Permittee engages in any activity subject to any 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 regulation.

Condition 18

Legal Basis: [18 AAC 50.030 & 18 AAC 50.350(f)(2)-(3), 1/18/97]

Factual Basis: This condition is necessary to implement a requirement of 18 AAC 50. The requirement is not part of Alaska's federally approved SIP and is not federally enforceable. This condition restates a requirement of Alaska's State Air Quality Control Plan.

Condition 19

Legal Basis: [18 AAC 50.045(a), 1/18/97]

[18 AAC 50.350(f)(3), 1/18/97]

[18 AAC 350(g) – (i), 1/18/97]

Applies to the Permittee because the Permittee must comply with emission standards in 18 AAC 50.

Factual Basis: The requirement prohibits diluting emissions as a means of compliance. In practical terms, dilution only affects compliance when the emissions are being measured. Therefore, the monitoring is limited to immediately before source testing and once a year for exhaust that is continuously monitored.

Dilution can occur by design or by leaks in the exhaust ductwork. Intentional dilution is not expected to be a problem, as it would increase operating costs by increasing induced draft fan power requirements. Careful review of source test plans and operating conditions will prevent intentional dilution. Therefore, only leaks need to be monitored under this condition.

The monitoring adequately prevents dilution by requiring leaks to be repaired before compliance with the emission standards is measured.

Condition 20

Legal Basis: [18 AAC 50.346(c), 5/30/02]

[18 AAC 50.040(e), 8/15/02]

[18 AAC 50.045(d), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applies to the Permittee because the Permittee will engage in industrial activity at the facility.

Factual Basis: The condition restates the regulatory prohibition on fugitive dust. This prohibition calls for reasonable precautions to be taken to prevent particulate matter from being emitted into the ambient air while engaged in industrial activities.

This condition applies to operating permits for facilities that do not have an approved dust control plan, and contain potential sources, including commercial/industrial/municipal solid waste incinerators.

Condition 21

Legal Basis: [18 AAC 50.055(g) & 18 AAC 50.310(m), 1/18/97]

Applies to the facility because the facility contains a stack or source modified after November 1, 1982.

Factual Basis: The condition restates the prohibition on stack injection (i.e., disposing of material by injecting it into a stack). No specific monitoring for this condition is practical. Compliance is ensured by inspections, because the source or stack would need to be modified to accommodate stack injection.

Condition 22

Legal Basis: [18 AAC 50.040(e), 1/18/97]

[18 AAC 50.065(a) – (e), 1/18/97]

[18 AAC 50.350(d)(1), 1/18/97]

[18 AAC 50.350(g) – (h), 1/18/97]

These conditions apply if the Permittee conducts open burning at the facility.

Factual Basis: The condition requires the Permittee to comply with the regulatory requirements when conducting open burning at the facility.

No specific monitoring is required for this condition. The permit does require the Permittee to keep "sufficient records" to demonstrate compliance with the standards for conducting open burning, but does not specify what these records should contain.

More extensive monitoring and recordkeeping is not warranted because the Permittee does not conduct open burning as a routine part of their business. Also, most of the requirements are prohibitions, which are not easily monitored. Additional monitoring is achieved through condition 23, which requires a record of complaints. Therefore, the Department does not believe that additional monitoring is warranted.

Condition 23

Legal Basis: [18 AAC 50.040(e), 8/15/02]

[18 AAC 50.110, 5/26/72]

[18 AAC 50.246(a)(2), 5/30/02]

Applies to the facility because the facility will have emissions.

Factual Basis: The condition prohibits the Permittee from causing any emission which is injurious to human health or welfare, animal or plant life, or property, or which unreasonably

interfere with enjoyment of life and property. While the other permit conditions and emissions limitation should ensure compliance with this condition, unforeseen emission impacts can violate this standard. These violations would go undetected except for complaints from affected persons. Therefore, to monitor compliance, the Permittee must monitor and respond to complaints.

The Permittee is required to report any complaints and injurious emissions. The plant does not handle any large quantities of hazardous air pollutants. The Permittee must keep records of the date, time, and nature of all complaints received and summary of the investigation and corrective actions undertaken for these complaints and to submit copies of these records upon request of the Department.

The Department will determine whether the necessary actions were taken. No corrective actions are necessary if the compliant is frivolous or there is not a violation of 18 ACC 50.110, however this condition is intended to prevent the Permittee from prejudging that complaints are invalid.

Condition 24

Legal Basis: [18 AAC 50.235(a) & 18 AAC 50.350(f), 1/18/97]

Applies to the facility because the facility contains equipment subject to a technology-based emission standard.

Factual Basis: This condition restates a regulation that requires the Permittee to take reasonable steps to minimize emissions if certain activity causes exceedance of a technology-based emission standard. Because the technology-based emission standard itself is a condition of the permit, the Permittee will report the excess emissions per condition 38. Because the excess emission report requires information on the steps taken to minimize emissions, this report is adequate monitoring for compliance with this condition.

Condition 25

Legal Basis: [18 AAC 50.335(a), 1/18/97]

Applies if the Permittee intends to renew the permit.

Factual Basis: The condition restates the regulatory deadlines, citing the specific dates applicable to the facility. Submittal of the renewal application is sufficient monitoring, recordkeeping, and reporting.

Condition 26

Legal Basis: [18 AAC 50.220(a) & 18 AAC 50.345(a)(10), 1/18/97]

Standard condition to be included in all permits.

Factual Basis: Condition requires the Permittee to conduct source tests as requested by the Department, therefore no monitoring is needed. Conducting the requested source test is its own monitoring.

Conditions 27 through 29

Legal Basis: [18 AAC 50.030, 1/18/97]

[18 AAC 50.035, 1/18/97]

[18 AAC 50.040, 1/18/97]

[18 AAC 50.220(b) – (c), 1/18/97]

[18 AAC 50.350(g), 1/18/97]

[18 AAC 50.990(88), 1/18/97]

[Federal Citation: 40 C.F.R. 51, Appendix M, 7/1/97]

[Federal Citation: 40 C.F.R. 60, 40 C.F.R. 61, 40 C.F.R. 63, 7/1/97]

Applies when the Permittee is required to conduct a source test.

Factual Basis: These conditions restate regulatory requirements for source testing. As such, they supplement the specific monitoring requirements stated elsewhere in this permit. The tests reports required by later conditions adequately monitor compliance with these conditions, therefore no specific monitoring, reporting, or recordkeeping is needed.

Conditions 30 through 32

Legal Basis: [18 AAC 50.345(a)(10), 1/18/97]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applies when the Permittee is required to conduct a source test.

Factual Basis: Standard condition 18 AAC 50.345(a)(10) is incorporated through these three conditions. Because this standard condition supplements specific monitoring requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required. The source test itself is adequate to monitor compliance with this condition.

Condition 33

Legal Basis: [18 AAC 50.220(f) & 18 AAC 50.350(g), 1/18/97]

Applies when the Permittee tests for compliance with the particulate matter standard.

Factual Basis: The condition incorporates a regulatory requirement for particulate matter source tests. The Permittee must use a certain equation to calculate the particulate-matter emission concentration from the source test results. Because this condition supplements specific monitoring requirements stated elsewhere in this permit, no monitoring, reporting, or recordkeeping is required.

Condition 34

Legal Basis: [18 AAC 50.205, 1/18/97]

[18 AAC 50.345(a)(9), 1/18/97]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(i), 1/18/97]

Applies because the permit requires the Permittee to submit reports, and because the condition is a standard condition.

Factual Basis: This condition restates the regulatory requirement that all reports must be certified. To ease the certification burden, the condition allows the excess emission reports to be certified with the semi-annual operating report, although the excess emission reports must be submitted more frequently. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

Condition 35

Legal Basis: [18 AAC 50.350(i), 1/18/97]

Applies because the Permittee is required to send reports to the Department.

Factual Basis: This condition merely specifies where submittals to the Department should be sent. Receipt of the submittal at the correct Department office is sufficient monitoring for this condition. This condition supplements the reporting requirements of the permit and no monitoring, recordkeeping or reporting for this condition is needed.

Condition 36

Legal Basis: [18 AAC 50.200, 1/18/97]

[18 AAC 50.345(a)(8), 1/18/97]

[18 AAC 50.350(b)(3), 1/18/97]

[18 AAC 50.350(g) – (i), 1/18/97]

Applies to all Permittees, and incorporates a standard condition

Factual Basis: Incorporates a standard condition in regulation, which tells the Permittee to submit information requested by the Department. Receipt of the requested information is adequate monitoring.

Condition 37

Legal Basis: [18 AAC 50.350(h), 1/18/97]

Applies to records required by a permit.

Factual Basis: The condition restates the regulatory requirements for recordkeeping, and supplements the recordkeeping defined for specific conditions in the permit. The records being kept provide adequate evidence of compliance with this requirement, therefore, no additional monitoring, recordkeeping, or reporting is required.

Condition 38

Legal Basis: [18 AAC 50.235(a)(2), 18 AAC 50.240(c) & 18 AAC 50.350(i), 1/18/97]

Applies when the emissions or operations deviate from the requirements of the permit.

Factual Basis: This condition satisfies two regulatory requirements related to excess emissions—the technology-based emission standard regulation and the excess emission regulation. Although there are some differences between the regulations, the condition satisfies the requirements of each regulation.

The condition does not mandate the use of the Department's reporting form, but it does specify that the information listed on the form must be included in the report.

The reports themselves and the other monitoring records required under this permit provide an adequate monitoring of whether the Permittee has complied with the condition. Therefore, no additional monitoring, recordkeeping or reporting is required.

Condition 39

Legal Basis: [18 AAC 50.040 & 18 AAC 50.350(i)(2), 1/18/97]

[Federal Citation: 40 C.F.R. 60 & 40 C.F.R. 61, 7/1/97]

Applies to facilities subject to NSPS and NESHAP federal regulations.

Factual Basis: The condition supplements the specific reporting requirements in 40 C.F.R. 60 and 40 C.F.R. 61. The permit does not need any monitoring, recordkeeping, or reporting. The reports themselves are adequate monitoring for compliance with this condition.

Condition 40

Legal Basis: [18 AAC 50.350(d)(4), 1/18/97]

[18 AAC 50.350(f)(3), 1/18/97]

[18 AAC 50.350(i), 1/18/97]

Applies to all permits.

Factual Basis: The condition restates the requirements for reports listed in regulation. The condition supplements the specific reporting requirements elsewhere in the permit and does not need any monitoring, recordkeeping or reporting. The reports themselves are adequate monitoring for compliance with this condition.

Condition 41

Legal Basis: [18 AAC 50.350(j), 1/18/97]

Applies to all Permittees.

Factual Basis: This condition specifies the periodic compliance certification requirements, and specifies a due date for the annual compliance certification. Because this requirement is a report, no monitoring, recordkeeping, or reporting is needed.

Condition 42

Legal Basis: [18 AAC 50.350(f)(3), 1/18/97]

[Federal Citation: 40 C.F.R. 52.12(c), 7/1/99]

Applies to all federally approved permits.

Factual Basis: This condition clarifies that any credible evidence can be used to verify compliance with the permit, not just the monitoring required under the permit. This condition is necessary to ensure compliance with the Clean Air Act. No monitoring, recordkeeping, or reporting is necessary for this condition.

Conditions 43 through 49

Legal Basis: [18 AAC 50.345(a)(1) – (7) & 18 AAC 50.350(b)(3), 1/18/97]

Applies to all operating permits.

Factual Basis: These are standard conditions required for all operating permits.

Conditions 50 through 55

Legal Basis: [18 AAC 50.350(g) – (i), 1/18/97]

Applies because these conditions detail the monitoring, recordkeeping, and reporting required in conditions 3 and 4.

Factual Basis: Each permit term and condition must include monitoring, recordkeeping and reporting for the Permittee to show verifiable compliance with each permit term and condition. The Permittee must establish by actual visual observations which can be supplemented by other means, such as a defined Facility Operation and Maintenance Program, that the facility is in continuous compliance with the State's emission standards for visible emissions and particulate matter. The correlation between particulate matter and visible emissions that is the basis for this monitoring procedure is discussed under conditions 3 and 4.

These conditions detail a stepwise process for monitoring compliance with the State's visible emissions and particulate matter standards for liquid and gas fired sources. Equipment types covered. Equipment types covered by these conditions are internal combustion engines, turbines, heaters, boilers, and flares. Initial monitoring frequency schedules are established along with subsequent reductions or increases in frequency depending on the results of the self-monitoring program.

Monitoring frequencies for hydrocarbon fuels, both liquid and gaseous, are detailed in these conditions. The monitoring intervals for gaseous fuels are less frequent than for liquid fuels in recognition of the reduced propensity of gaseous fuels to produce particulate matter as a result of combustion. This reduced level of monitoring for individual facilities in conjunction with the very large number of gas fired sources in Alaska should provide the Department with sufficient data to evaluate the compliance history of these sources as a category.

Reasonable action thresholds are established in these conditions that require the Permittee to progressively address potential visible emission problems from sources either through maintenance programs and/or more rigorous tests that will quantify whether a specific emission standard has been exceeded.

Notification of the Department via recordkeeping and reporting requirements are included in these conditions.

ATTACHMENT 1

MEMORANDUM

State of Alaska

Department of Environmental Conservation
Division of Air and Water Quality - Air Quality Maintenance

TO: John Stone, Chief DATE: March 24, 1998

FILE: 74.05.02

FROM: John Kuterbach
Air Quality Maintenance

SUBJECT: Maximum SO_2 Concentration from the combustion of #2 diesel fuel

EPA in their Title V permit reviews is requiring the Department to demonstrate that limiting fuel sulfur to 0.5% will ensure compliance with our 500 ppmv SO_2 limit. This memorandum sets forth engineering calculations which demonstrate that combustion of #2 diesel fuel containing up to 0.5% sulfur will always comply with the 500 ppmv SO_2 limit regardless of the engine involved. I recommend that we reference these calculations in future "statements of basis" that we send to EPA with our draft operating permits.

Summary

This engineering calculation examined the stoichiometric combustion of #2 diesel fuel and calculated the maximum sulfur dioxide content of the flue gases. Typically, combustion of #2 diesel fuel can produce up to 338 ppmv SO_2 in the flue gas. Although this figure varies proportionally with the carbon content of the diesel fuel, the figure will never exceed the 500ppm limit.

I conclude that combustion of #2 diesel fuel with air will always comply with the 500ppmv emission limit. The ASTM specification for #2 diesel fuel limits sulfur to 0.5% or less.

Assumptions

All constituents of the fuel are burned proportionally
Any excess air typical of combustion would tend to dilute the SO_2 concentration in the flue gas, therefore only theoretical air is considered.
#2 diesel fuel is composed of Carbon, Hydrogen, Sulfur, and negligible amounts of Water and ash.
Ignore the water because the standard is a dry standard and the water will drop out of any calculations.
Ignore the ash as negligible unless the study predicts an SO_2 concentration greater than 450 ppm.
Typical #2 diesel fuel is composed of 87% Carbon, 12.5% Hydrogen, and 0.5% Sulfur
Calculations.

Using normal air for combustion (79% N_2 and 21% O_2):

For each lb-mole of Oxygen in Air, there is 3.76 lb-mole Nitrogen (1 lb-mole O_2) = (0.79/0.21) = 3.76 lb-mole N_2

The stoichiometric equations are:
$C + O_2 + 3.76\ N_2 = CO_2 + 3.76\ N_2$
$2H_2 + 0_2 + 3.76\ N_2 = 2H_2O + 3.76\ N_2$
$S + 0_2 + 3.76\ N_2 = SO_2 + 3.76\ N_2$

To calculate the dry exhaust gases (CO_2, N_2, SO_2) the following equations are used:

moles CO_2 = (lb C) x (1 lb-mole C/12.01 lb C) x (l lb-mole CO_2/1 lb mole C)
moles N_2 = (lb C) x (1 lb-mole C/12.01 lb C) x (3.76 lb-mole N_2/lb-mole C)
+ (lb H_2) x (1 lb-mole H_2/2.016 lb H_2) x (3.76 lb-mole N_2/2 lb-mole H_2)
+ (lb S) x (1 lb-mole S/32.06 lb S) x (3.76 lb-mole N_2/lb-mole S)
moles SO_2 = + (lb S) x (1 lb-mole S/32.06 lb S) x (lb-mole SO_2/1 lb-mole S)

Condensing these equations leaves:

moles CO_2 = lb C/12.01
moles N_2 = 3.76 x [(lb C/12.01) + (lb H_2/4.032) + (lb S/32.06)]
moles SO_2 = lb S/32.06

Then, by Avogadro's Law and the definition of mole:

ppmv SO_2 = 1,000,000 x [moles SO_2/(moles CO_2 + moles N_2 + moles SO_2)]

Results

Using 100 pounds of fuel as a basis, we examined the following three cases:

Case	Pounds in Fuel		
	Carbon	Hydrogen	Sulfur
1	87	12.5	0.5
2	96	3.5	0.5
3	78	21.5	0.5

Case 1 is the normal case, Case 2 increases carbon by 10 percent, and Case 3 decreases carbon by 10 percent.

	Case 1	Case 2	Case 3
moles CO_2	7.24	7.99	6.49
moles N_2	38.94	33.36	44.51
moles SO_2	0.0156	0.0156	0.0156
Total Dry Moles	46.196	41.366	51.016
ppmv SO_2	338	377	306

Conclusion

The above calculations show that #2 diesel fuel combusted with air will always comply with the 500 ppmv SO_2 limit. The calculations use the conservative assumptions of complete combustion and no excess air. The real world includes partial combustion and excess air, both of which would tend to dilute the SO_2 concentration in the exhaust effluent.

The equations above can be used as an initial screening for other petroleum fuels even with a higher sulfur content or significant ash.

If you agree this memorandum has value, please share it with the rest of the AQM staff.